REMARKS

Claims 1-30 are pending in this application. By this Amendment, claims 1, 7 and 8 are amended and new claims 26-30 are added.

The Office Action rejects claims 1-25 under 35 U.S.C. §102(b) over U.S. Patent 5,703,292 to Ward. The rejection is respectfully traversed.

Independent claim 1 recites a loop apparatus that includes a plurality of gain stages connected in series to amplify a radio frequency (RF) signal having a voltage. Independent claim 1 further recites a plurality of feedback loops that cancel an undesired offset of the resulting amplified signal. Still further, independent claim 1 recites each feedback loop connects to the output port and the input port of a corresponding one of the gain stages, such that each gain stage is connected to a corresponding feedback loop that cancels the undesired offset of its corresponding gain stage.

Ward does not teach or suggest all of the features of independent claim 1. That is, Ward does not relate to the plurality of gain stages connected in series to amplify a radio frequency signal. Rather, Ward merely relates to a sensor 12 that may have a force (shown by force signal 14) applied to the sensor 12. See Figure 1. The sensor 12 provides output signals 32 and 18 to corresponding output transducers 20 and 22, respectively. The output transducer 20 converts a force indicative signal 32 into a feedback signal 24 which is further processed to control the force signal 14. A frequency translation circuit 40 may eliminate in-band coupling of the drive signal 28 to the output signals 24, 26. See column 5, line 45 - column 6, line 55. Figure 3 shows

the frequency translation circuit 40. The Office Action primarily cites the operation amplifier 120, the operation amplifier 122, and the operational amplifier 124 (or the elements 104, 107 or 130, 128, 140). However, none of these elements relate to a plurality of gain stages connected in series to amplify a radio frequency signal. Rather, Ward relates to the drive signal 28. Stated differently, Ward's sensor 12 and subsequent adjustment of output transducers 20, 22 does not relate to the amplification of a radio frequency's signal. Further, the elements listed in the Office Action do not suggest a plurality of feedback loops where each feedback loop connects to the output port and the input port of a corresponding one of the gain stages. That is, at least elements 104, 107 or 130, 128, 140 do not relate to the claimed feedback loops. Thus, independent claim 1 defines patentable subject matter.

Each of independent claims 7 and 8 define patentable subject matter for at least similar reasons as claim 1. More specifically, independent claim 7 recites amplifying the voltage of an RF signal by propagating the RF signal through a plurality of gain stages connected in series. Independent claim 7 further recites canceling an undesired offset of the resulting amplified signal with a plurality of feedback loops where each feedback loop connects to the output port and the input port of a corresponding one of the gain stages, such that each gain stage is connected to a corresponding feedback loop that cancels the undesired offset of its corresponding gain stage. Ward does not teach or suggest these features relating to the RF signal and/or to the feedback loop.

Still further, independent claim 8 recites an amplification unit that receives and amplifies a radio frequency (RF) signal where the amplification unit includes a plurality of gain stages connected in series to amplify the RF signal and a plurality of feedback loops that cancel an undesired offset of the resulting amplified signal. Independent claim 8 further recites a plurality of feedback loops where each feedback loop connects to the output port and the input port of a corresponding one of the gain stages. For at least the reasons set forth above, Ward does not teach or suggest these features relating to the RF signal and/or the feedback loop.

Accordingly, independent claims 1, 7, and 8 define patentable subject matter. Claims 2-6, 17-20 and 26-27 depend from claim 1, claims 21-24 and 28 depend from claim 7, and claims 9-25 and 29-30 depend from claim 8, and therefore define patentable subject matter for at least this reason. In addition, the dependent claims include features that further and independently distinguish over the applied references. For example, dependent claim 5 (and similarly dependent claim 14) recites that the plurality of gain stages and feedback loops are mounted on a chip, and each feedback loop includes a capacitor mounted on the chip. In addressing this claim, the Office Action asserts that Ward includes a CMOS that is considered as the claimed chip and that each feedback loop includes a capacitor mounted on the CMOS (chip). The Office Action references Ward's column 4, line 25. However, Ward does not teach or suggest that a plurality of gain stages and feedback loops (as recited in independent claim 1) are mounted on a chip. Furthermore, Ward does not teach or suggest that each feedback loop includes a capacitor mounted on a chip. Ward's mere suggestion of CMOS is not enough to show the

claimed features of the feedback loop having a capacitor. As such, dependent claims 5 and 14 define patentable subject matter at least for this additional reason.

Furthermore, dependent claim 6 (and similarly dependent claim 15) recites that the signal is an analog radio frequency signal. See also dependent claims 17, 21 and 25. The Office Action asserts that Ward inherently includes a radio frequency signal. However, this is incorrect. Ward clearly relates to a drive signal 28/76 in Coriolis force sensors such as gyroscopes. See column 1, lines 18-27. These sensors do not relate to analog radio frequency signals as alleged. The Office Action appears to assert these features are "inherent." However, it is well settled that inherency may not be established by probabilities or possibilities. That is, the mere fact that a certain thing may result from a given set of circumstances is not sufficient. See *Continental Can USA, Inc. et al. v. Monsanto et al.*, 20 USPQ 2d 1746 (Fed. Cir. 1991). Clearly, Ward's Coriolis force sensors such as gyroscopes do not relate to analog radio frequency signals. As such, dependent claim 6 (and similarly dependent claims 15, 17, 21 and 25) defines patentable subject matter at least for this additional reason.

Dependent claim 9 (and similarly dependent claim 19) recites an analog-to-digital converter that converts a demodulated baseband signal to a digital data stream. See also dependent claim 23. The Office Action asserts that Ward inherently includes these features. However, Ward does not address these features and it is not inherent that Ward includes an analog-to-digital converter that converts a demodulated baseband signal to a digital data stream. If these features are inherent, then the Patent Office is respectfully requested to identify the

location of these "inherent" features. Applicants respectfully submit these features are not inherent. Thus, dependent claim 9 (and similarly dependent claims 19 and 23) defines patentable subject matter at least for this additional reason.

Dependent claim 10 recites a channel selection filter that removes an out-of-band signal from the demodulated baseband signal. The Office Action asserts that Ward inherently includes these features. However, Ward does not address these features and it is not inherent that Ward includes an analog-to-digital converter that converts the demodulated baseband signal to a digital data stream. If these features are inherent, then the Patent Office is respectfully requested to identify the location of these "inherent" features. Applicants respectfully submit these features are not inherent. Thus, dependent claim 10 defines patentable subject matter at least for this additional reason.

Still further, dependent claim 12 recites that each direct current offset canceling unit includes a high-pass filter that filters the direct current offset voltage. The Office Action asserts that Ward inherently includes these features. However, Ward does not address these features and it is not inherent that Ward includes a high-pass filter that filters the direct current offset voltage. If these features are inherent, then the Patent Office is respectfully requested to identify the location of these "inherent" features. Applicants respectfully submit these features are not inherent. Thus, dependent claim 12 defines patentable subject matter at least for this additional reason.

Further, dependent claim 16 recites that the mixer receives a plurality of clock signals to generated the local oscillator signal, where each of the clock signals has a frequency less than the local oscillator signal. The Office Action asserts that Ward inherently includes these features. However, Ward does not address these features and it is not inherent that Ward generates a local oscillator signal where each of the clock signals has a frequency less than the local oscillator signal. If these features are inherent, then the Patent Office is respectfully requested to identify the location of these "inherent" features. Applicants respectfully submit these features are not inherent. Thus, dependent claim 16 defines patentable subject matter at least for this additional reason.

Each of new dependent claims 26-39 generally relates to an antenna unit to receive the RF signal. Ward does not suggest these features as Ward relates to Coriolis force sensors such as gyroscopes. As such, Ward does not relate to the features of each of dependent claims 26-30. Thus, each of dependent claims 26-30 defines patentable subject matter at least for this additional reason.

For at least the reasons set forth above, each of claims 1-30 define patentable subject matter. Withdrawal of the outstanding rejection is respectfully requested.

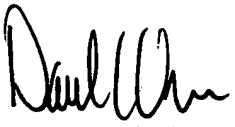
CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-30 is earnestly solicited. If the Examiner believes that any additional changes would place the application in

better condition for allowance, the Examiner is invited to contact the undersigned attorney, David C. Oren, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



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